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Application Serial No. 10/587,069
Reply to Office Action of October 10, 2007

PATENT
Docket: CU-4970

Amendments to the Claims

The listing of claims presented below replaces all prior versions, and listings, of claims in the application.

Listing of claims:

1-10. (cancelled)

11. (currently amended) A liquid crystal display comprising a ferroelectric liquid crystal sandwiched between two substrates,

wherein an electrode and a photo alignment layer are each successively formed on opposite faces of the two substrates facing each other;

wherein a constituent material of the respective photo alignment layer is a photoreactive material which generates a photoreaction to give anisotropy to the photo alignment layer; and

the constituent material of the respective photo alignment layer has a different composition from each other with the ferroelectric liquid crystal sandwiched therebetween; and

wherein the ferroelectric liquid crystal is a liquid crystal having no smectic A phase in a phase series thereof.

12. (previously presented) The liquid crystal display according to claim 11, wherein the photoreaction is a photo-dimerization reaction or a photo decomposition reaction.

13. (previously presented) The liquid crystal display according to claim 11, wherein the photoreactive material comprises a photo-dimerization-reactive compound having a radical-polymerizable functional group and dichroism that different absorptivities are exhibited depending on a polarization direction thereof.

14. (previously presented) The liquid crystal display according to claim 12, wherein the photoreactive material comprises a photo-dimerization-reactive

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compound having a radical-polymerizable functional group and dichroism that different absorptivities are exhibited depending on a polarization direction thereof.

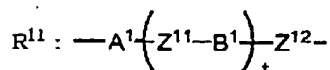
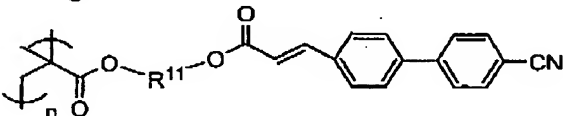
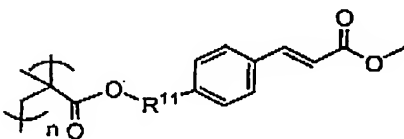
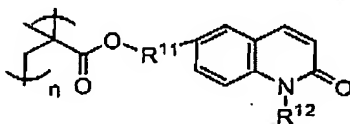
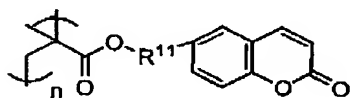
15. (currently amended) The liquid crystal display according to claim 13, wherein the photo-dimerization-reactive compound is a dimerization-reactive polymer containing, as its side chain, any one of cinnamic acid ester, coumarin coumalin, and quinoline.

16. (currently amended) The liquid crystal display according to claim 14, wherein the photo-dimerization-reactive compound is a dimerization-reactive polymer containing, as its side chain, any one of cinnamic acid ester, coumarin coumalin, and quinoline.

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17. (previously presented) The liquid crystal display according to claim 13, wherein the photo-dimerization-reactive compound is at least one selected from dimerization-reactive polymers represented by the following formulae:



in which A¹ and B¹: 1,4-phenylene, a covalent single bond, pyridine-2,5-diyl, pyrimidine-2,5-diyl, 1,4-cyclohexylene or 1,3-dioxane-2,5-diyl;

Z¹¹ and Z¹²: -CH₂-CH₂-, -COO-, -OOC-, or a covalent single bond;

t: an integer of 0 to 4;

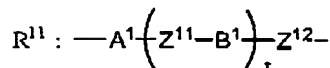
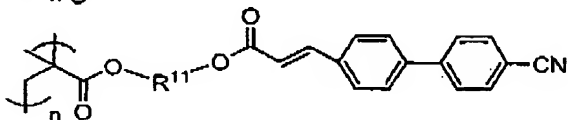
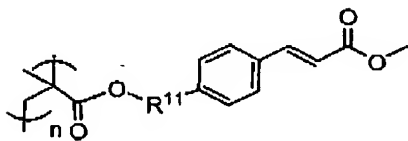
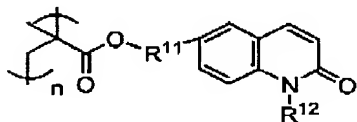
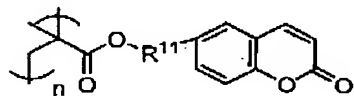
R¹²: a lower alkyl; and

n: an integer of 4 to 30,000.

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18. (previously presented) The liquid crystal display according to claim 15, wherein the photo-dimerization-reactive compound is at least one selected from dimerization-reactive polymers represented by the following formulae:



in which A^1 and B^1 : 1,4-phenylene, a covalent single bond, pyridine-2,5-diyl, pyrimidine-2,5-diyl, 1,4-cyclohexylene or 1,3-dioxane-2,5-diyl;

Z^{11} and Z^{12} : $-\text{CH}_2-\text{CH}_2-$, $-\text{COO}-$, $-\text{OOC}-$, or a covalent single bond;

t : an integer of 0 to 4;

R^{12} : a lower alkyl; and

n : an integer of 4 to 30,000.

19. (previously presented) The liquid crystal display according to claim 11, wherein the ferroelectric liquid crystal exhibits mono-stability.

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20. (previously presented) The liquid crystal display according to claim 12, wherein the ferroelectric liquid crystal exhibits mono-stability.
21. (cancelled)
22. (cancelled)
23. (previously presented) The liquid crystal display according to claim 11, wherein the ferroelectric liquid crystal is a liquid crystal which constitutes a single phase.
24. (previously presented) The liquid crystal display according to claim 12, wherein the ferroelectric liquid crystal is a liquid crystal which constitutes a single phase.
25. (previously presented) The liquid crystal display according to claim 11, wherein the liquid crystal display is driven by an active matrix system using a thin film transistor.
26. (previously presented) The liquid crystal display according to claim 12, wherein the liquid crystal display is driven by an active matrix system using a thin film transistor.
27. (previously presented) The liquid crystal display according to claim 11, wherein the liquid crystal display is displayed by a field sequential color system.
28. (previously presented) The liquid crystal display according to claim 12, wherein the liquid crystal display is displayed by a field sequential color system.